

ACTION SHEET 38

between
The United States Department of Energy (DOE)
and
The Japan Nuclear Cycle Development Institute (JNC)
for
Development of Remote Monitoring for Tokai Vitrification Facility Safeguards System

1. Introduction

Under Article II (Area of Cooperation) of the Agreement between JNC and DOE for Cooperation in Research and Development Concerning Nuclear Material Control and Accounting Measures for Safeguards and Nonproliferation (herein called the "Agreement"), dated September 15, 1993, DOE and JNC undertake to develop a remote monitoring system for the Tokai Vitrification Facility (TVF) that integrates data from NDA measurements with canister ID images and canister movement information.

2. Scope of Work

This Action Sheet (AS) provides for developing a remote monitoring system at TVF. Components of the systems include an NDA measurement system, a camera for reading the IDs on the canisters, radiation triggered direction-of-movement detectors and operator declarations. The components will be integrated and the integrated data will be transmitted to the inspector room at the Tokai Reprocessing Plant (TRP).

The work performed under this Action Sheet shall be performed at the Los Alamos National Laboratory (LANL) and Tokai Vitrification Facility (TVF) and Tokai Reprocessing Plant (TRP) in accordance with the terms and conditions of the Agreement.

3. Program Management

LANL is responsible for developing the system that integrates data from various sources at TVF. The work to be done is identified in Appendix I and is limited to development of equipment and techniques for nuclear safeguards application. JNC is responsible for providing design information, operating data, any other information, and facilities needed for completion of the development and installation of the monitoring system.

Appendix II identifies key personnel associated with this project.

DOE and LANL shall work directly with JNC in planning tasks and resolving programmatic and technical questions. LANL shall start by developing and circulating a work plan with projected milestones and shall update the work plan with JNC concurrence as work progresses.

LANL shall prepare brief semiannual letter progress reports on each task and circulate them to JNC, DOE, and other pertinent organizations as requested by JNC.

LANL and JNC shall prepare and present written and oral reports at meetings of the Permanent Coordinating Group (PCG).

4. Fiscal Management

JNC shall make a cash contribution with the sum of \$250,000 in United States dollars to conduct the activities related to the completion of joint studies into safeguards techniques as defined in Appendix I of this Action Sheet in the following manner:

- a.) A contribution of \$40,000 in United States dollars shall be due and payable upon receipt of an invoice to be issued in Japanese Fiscal Year (JFY) 1998 after the date of signature of the Action Sheet.
- b.) A contribution of \$120,000 in United States dollars shall be due and payable upon receipt of an invoice to be issued in April 1999. This payment is subject to approval and the appropriation of necessary funding by the Japanese Government for JFY 1999.
- c.) A contribution of \$90,000 in United States dollars shall be due and payable upon receipt of an invoice to be issued in April 2000. This payment is subject to approval and the appropriation of necessary funding by the Japanese Government for JFY 2000.

All contributions by JNC shall be due and payable within thirty days of receipt by JNC of an invoice from DOE, subject to availability of appropriated funds to JNC.

DOE shall be responsible for the budget planning and financial management and shall make best efforts to complete the JNC-funded activities in Appendix I satisfactorily and within the cash contribution by JNC. DOE costs are determined in accordance with DOE's policy for costing work it performs for others as set forth in 10 CFR Part 1009. The total cost to JNC for DOE's performance of work under this Action Sheet shall not, without JNC's prior consent, exceed the contributions set forth above.

DOE shall not begin or carry out work prior to entry into force of the Agreement and Action Sheet and receipt of the required payment in advance. Work shall not be continued after funds from JNC have been depleted.

Throughout the duration of work under this Action Sheet, JNC shall provide sufficient funds in advance to reimburse DOE for causing LANL to perform the work described in this Action Sheet, and DOE shall have no obligation to perform in the absence of adequate advance funds. Payment in advance from JNC shall be sufficient to cover the expected obligation and cash requirements of the work until a subsequent request for payment in

advance can be made, collected, and recorded. In this regard, sufficient advance funds³ shall be provided to maintain, at a minimum, a continuous 90-days advance of funds for expected DOE fund requirements during the life of this Action Sheet. Advances shall be sufficient to cover expected termination costs that DOE would incur on behalf of JNC.

5. Duration and Termination

This Action Sheet shall enter into force upon the later date of signature and shall continue in force for a three-year period or until mutually agreed by the parties that all activities under this Action Sheet are completed.

For the United States Department of Energy

Signature: 

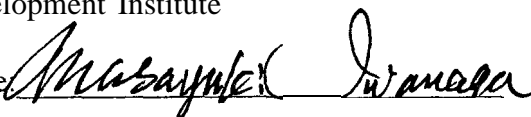
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Name: Kenneth E. Sanders

Title: Director
International Safeguards Division

Date: 18 Dec. 1998

For the Japan Nuclear Cycle
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Signature: 

Printed

Name: Masayuki Iwanaga

Title: Director
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Date: _____

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APPENDIX I

Development of Remote Monitoring for Tokai Vitrification Facility Safeguards System

1. Study Outline

This program involves develop a remote monitoring system for the Tokai Vitrification Facility (TVF) which integrates data from NDA measurements with canister ID images and canister movement information. The study outline is as follows:

- A. JNC provides site-specific design information.
- B. LANL determines data collection and transmission methods
- C. LANL designs hardware, data transmission software and integrated data evaluation software.
- D. JNC reviews proposed system design.
- E. LANL develops hardware and software.
- F. LANL and JNC perform functional test of system at LANL.
- G. LANL and JNC install the system
- H. LANL, JNC, IAEA and JAEB perform acceptance test of the system.
- I. LANL provides documentation.

As more detailed program plans are developed, specific responsibilities will be better defined and delineated. The design of the system hardware and software will be compatible with similar systems at the Tokai works.

2. Sites

This work will be conducted at:

Los Alamos National Laboratory		Japan Nuclear Cycle Development Institute
Los Alamos, New Mexico, USA	and	Tokai, Japan

3. Programmatic Responsibilities

- A. LANL will be responsible for providing best efforts within the funding and schedule for the feasibility study.
- B. JNC will be responsible for providing facility specific specifications and information on any constraints
- C. JNC and LANL will jointly participate in installation and testing.
- D. JNC and LANL will jointly participate in technical review meetings and the final evaluation.

4. Schedule

The schedule will be followed on a best-effort basis commencing on receipt of funding and availability of parts.

ID	Task Name	Qtr 4	1999				2000			
			Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1	Development of Remote Monitoring for the TVF Safeguards System									
2	Site-specific design information									
3	Determination of data collection and transmission methods									
4	Design of hardware, data transmission software and integrated data evaluation									
5	Review of proposed system design									
6	Development of hardware and software									
7	System functional testing									
8	Installation of system at TVF									
9	Acceptance testing									
10	Documentation									

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APPENDIX II

Development of Remote Monitoring for Tokai Vitrification Facility Safeguards System

Japan Nuclear Cycle Development Institute

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